

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)

3712174-478

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Typed or printed name _____

Application Number

10/796,527

Filed

March 9, 2004

First Named Inventor

Mori

Art Unit

1792

Examiner

Jeffrie R. Lund

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

applicant/inventor.

assignee of record of the entire interest.
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)

attorney or agent of record. 46,541
Registration number _____

attorney or agent acting under 37 CFR 1.34.

Registration number if acting under 37 CFR 1.34 _____



Signature

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Typed or printed name

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Telephone number

February 18, 2011

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required.
Submit multiple forms if more than one signature is required, see below.



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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Mori et al.
Appl. No.: 10/796,527
Conf. No.: 1944
Filed: March 9, 2004
Title: APPARATUS AND METHOD FOR MANUFACTURING AN ORGANIC
ELECTROLUMINESCENCE DISPLAY
Art Unit: 1792
Examiner: Jeffrie R. Lund
Docket No.: 3712174-00478

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PRE-APPEAL BRIEF

Sir:

This Pre-Appeal Brief is submitted in reply to the Advisory Action dated January 31, 2011 and the Final Office Action dated November 18, 2010. This Pre-Appeal Brief is filed contemporaneously with a "Pre-Appeal Brief Request for Review" and a "Notice of Appeal."

REMARKS

This Pre-Appeal Brief, Notice of Appeal, and Pre-Appeal Brief Request for Review are submitted in response to the rejections of Claims 11, 14-16, 18-21 and 25-31 as maintained in the Final Office Action dated November 18, 2010. Applicants assert that the Examiner's rejections rise to the level of clear error and make the case proper for pre-appeal review.

Claims 11, 14-16, 18-21 and 25-31 are pending in this application. Claims 1-10, 12-13, 17 and 22-24 were previously canceled without prejudice or disclaimer, and Claims 27-31 were withdrawn from consideration. In the Final Office Action, Claims 11, 14-16, 18-21 and 25-26 were rejected under 35 U.S.C. §103. For at least the reasons set forth below, Applicants respectfully submit that the rejections should be withdrawn.

In the Final Office Action, Claims 11, 14-16, 18-21 and 25-26 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,143,083 to Yonemitsu et al. ("Yonemitsu") in view of U.S. Patent No. 5,259,881 to Edwards et al. ("Edwards"), U.S. Patent No. 4,492,180 to Martin ("Martin") and U.S. Patent Publication No. 2001/0006827 A1 to Yamazaki et al. ("Yamazaki"). For at least the reasons set forth below, Applicants respectfully submit that, even if combinable, the cited references fail to disclose or render obvious each and every element of the present claims.

Independent Claim 11 recites, in part, an apparatus for manufacturing an organic electroluminescence display, the apparatus comprising: a first alignment mechanism for aligning a mask, having openings corresponding to the predetermined pattern, to the substrate and for detachably attaching the mask and the substrate; a first formation unit including a plurality of vacuum processing chambers for sequentially forming the plurality of organic material layers on the substrate at a first color position with the substrate attached to the mask; a second alignment mechanism for changing the alignment between the substrate and the mask, and for detachably attaching the substrate and the mask again; and a second formation unit including a plurality of vacuum processing chambers for sequentially forming the plurality of organic material layers on the substrate at a second color position with the substrate attached to the mask, wherein each of the vacuum processing chambers correspond to each of the organic material layers, and wherein the second alignment mechanism is provided to connect the first formation unit and the second formation unit in series thereby providing flow-through processing.

By forming the organic material layers for each formation unit sequentially in a state with the substrate and the mask attached, realignment is not needed during the formation of the organic material layers for a single organic layer. See, Specification, page 2, paragraphs 17-18; pages 5-6, paragraphs 77-91. This greatly reduces the waiting time for heating the vapor deposition sources, reduces equipment costs and decreases the amount of organic materials consumed in forming the organic layers. See, Specification, page 1, paragraph 13; page 8, paragraph 136; page 9, paragraphs 137-38. In contrast, even if combinable, the cited references fail to disclose every element of the present claims.

For example, even if combinable, the cited references fail to disclose a plurality of vacuum processing chambers for sequentially forming the organic material layers on the substrate at a single color position with the substrate attached to the mask as recited, in part, by independent Claim 1. The Examiner asserts that *Yonemitsu* teaches first and second film formation units each including a plurality of vacuum processing chambers for sequentially forming a plurality of layers. See, Final Office Action, page 3, lines 5-12. However, nowhere does *Yonemitsu* teach or even suggest that its reaction chambers 70 are capable of sequentially forming organic material layers with a substrate attached to a mask. Instead, *Yonemitsu* merely discloses a plurality of reaction chambers 70 for the deposition of various films on a semiconductor wafer. See, *Yonemitsu*, column 11, lines 23-44. Because *Yonemitsu* is entirely directed to a substrate processing apparatus for processing a semiconductor wafer, one of

ordinary skill in the art would understand that a mask would not be used when depositing films in the reaction chambers 70. See, *Yonemitsu*, column 1, lines 10-12; column 2, lines 10-12. As such, *Yonemitsu* fails to teach that its reaction chambers 70 are capable of sequentially forming organic material layers at a single color position with the substrate attached to the mask.

In response to Applicants' arguments, the Examiner asserts that "[a]ll of the cited art is capable of processing any substrate including semiconductor wafers or electroluminescence displays." See, Advisory Action, page 2, line 3. However, Applicants respectfully submit that the "with the substrate attached to the mask" limitation is a structural requirement of the claimed vacuum processing chambers. For example, the Specification teaches that in one embodiment the vacuum processing chambers may include a fixture holder 401 for holding a mask to allow for sequential formation of a plurality of organic material layers with a substrate attached to a mask. See, Specification, page 7, paragraphs 115-116; Figs. 17-18. In contrast, *Yonemitsu* merely discloses that its reaction chambers 70 are used to deposit various films by chemical vapor deposition, etching, heat treatment, epitaxial growth or diffusion. See, *Yonemitsu*, column 11, lines 32-44. Nowhere does *Yonemitsu* teach or suggest that its reaction chambers are capable of holding a substrate attached to a mask. In fact, because *Yonemitsu* is entirely directed to an apparatus for processing a semiconductor wafer, one of ordinary skill in the art would understand that a mask would not be used when depositing films in the reaction chambers 70. See, *Yonemitsu*, column 1, lines 10-12; column 2, lines 10-12. This is confirmed by *Yonemitsu*'s depiction of wafer boat 75 within reaction chambers 70 as a structure holding multiple wafers 5 spaced apart for deposition, without any masks. See, *Yonemitsu*, Figs. 4 and 9-11.

The Examiner further asserts that the wafer boat 75 is a holder for holding an attachment fixture and that Applicants have not "pointed out how a wafer boat is not a fixture holder or that the wafer boat is not capable of holding the attachment fixture." See, Final Office Action, page 3, lines 11-12; Advisory Action, page 2, lines 5-6. However, contrary to the Examiner's assertion, the wafer boat 75 of *Yonemitsu* is merely an apparatus which carries a plurality of wafers using grooves spaced a certain distance apart, rather than an apparatus which is capable of holding a mask attached to a substrate. See, *Yonemitsu*, column 11, lines 28-38; column 12, lines 22-36; column 14, lines 61-67; column 15, line 1; column 18, lines 32-51; Figs. 4 and 9-11. Therefore, one of ordinary skill in the art would understand that the reaction chambers 70 of *Yonemitsu* are not processing chambers for sequentially forming the organic material layers on the substrate at a single color position with a substrate attached to a mask.

Edwards similarly discloses a semiconductor wafer processing apparatus and fails to teach forming a plurality of organic material layers using a mask. See, *Edwards*, column 1, lines 5-9; column 3, lines 7-13. *Martin* teaches an apparatus for indexing a deposition mask to a substrate at a single working station where vapor deposition occurs, rather than forming organic material layers in a plurality of vacuum processing chambers with a substrate attached to a mask. See, *Martin*, column 3, lines 7-26; column 4, lines 18-52. Thus, even if combinable, the cited references fail to disclose a plurality of vacuum processing chambers for sequentially forming organic material layers on a substrate with the substrate attached to the mask.

Moreover, even if combinable, the cited references fail to disclose a second alignment mechanism for changing the alignment between the substrate and the mask, wherein the second alignment mechanism is provided to connect the first formation unit and the second formation unit in series as required, in part, by independent Claim 11. The Examiner relies on *Edwards* for the disclosure of connecting two processing apparatuses by an alignment chamber and asserts that “[t]he motivation for connecting the first, second and third film formation units of *Yonemitsu* et al with alignment chambers is to align the chambers and enable the substrate to be passed between each film formation unit[] as taught by *Edwards* et al.” See, Final Office Action, page 4, lines 1-2 and 13-15. However, *Edwards* merely discloses an aligner 16 which aligns modules 12 and 14 of a semiconductor wafer processing apparatus. See, *Edwards*, column 6, lines 40-42. Nowhere does *Edwards* teach or suggest that its alignment chamber may be used to align a mask with a substrate. Furthermore, as discussed previously, *Yonemitsu* is entirely directed to a semiconductor wafer processing apparatus and fails to even disclose the use of a mask. See, *Yonemitsu*, column 1, lines 10-12; column 2, lines 10-12. As such, one of ordinary skill in the art would have no reason to combine the teachings of *Edwards* and *Yonemitsu* to obtain an alignment mechanism for changing the alignment between a substrate and a mask.

Martin merely describes a carriage assembly which aligns a substrate 64 with a mask and fails to teach that its carriage assembly connects first and second film formation units. See, *Martin*, column 10, lines 16-40; Fig. 3. *Yamazaki* is relied upon merely for the disclosure of a magnetic attachment fixture that sandwiches a substrate and a mask and fails to teach an alignment mechanism. See, Final Office Action, page 4, lines 9-10. Thus, even if combinable, the cited references fail to disclose or even suggest a second alignment mechanism for changing the alignment between the substrate and the mask, wherein the second alignment mechanism is provided to connect the first formation unit and the second formation unit in series.

Applicants further submit that Examiner's proposed combination of references constitutes improper hindsight reconstruction of the present claims. The Federal Circuit has held that it is "impermissible to use the claimed invention as an instruction manual or 'template' to piece together the teachings of the prior art so that the claimed invention is rendered obvious." *In re Fritch*, 23 U.S.P.Q.2d 1780, 1784 (Fed. Cir. 1992). "One cannot use hindsight reconstruction to *pick and choose among isolated disclosures* in the prior art to deprecate the claimed invention." *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988) (emphasis added). The Examiner concludes that merely because *Edwards* teaches connecting two modules with an aligner and *Martin* teaches aligning a mask with a substrate, one skilled in the art would necessarily be motivated to include an alignment chamber which aligns a mask and a substrate between the film formation units of *Yonemitsu*. See, Final Office Action, page 4, lines 1-8 and 13-20.

However, contrary to the Examiner's assertions, one of ordinary skill in the art would have no reason to combine the alignment mechanism of *Martin* with the aligner of *Edwards* because *Edwards* is entirely directed to aligning transport modules of a semiconductor wafer processing apparatus, whereas *Martin* teaches an alignment mechanism for aligning a deposition mask with a substrate. See, *Edwards*, column 6, lines 40-42; *Martin*, Title; Abstract; column 2, lines 46-54. Furthermore, one of ordinary skill in the art would have no reason to use an alignment chamber which aligns a mask and a substrate in the apparatus of *Yonemitsu* to enable a substrate to be passed between film formation units, because *Yonemitsu* is entirely directed to an apparatus for processing a semiconductor wafer and fails to teach or even suggest the use of a mask anywhere in its apparatus. See, *Yonemitsu*, column 1, lines 10-12; column 2, lines 10-12.

Accordingly, Applicants respectfully request that the rejection of Claims 11, 14-16, 18-21 and 25-26 under 35 U.S.C. §103(a) to *Yonemitsu*, *Edwards*, *Martin* and *Yamazaki* be withdrawn.

For the foregoing reasons, Applicants respectfully submit that the present application is in condition for allowance and earnestly solicit reconsideration of same.

Respectfully submitted,

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